ABSTRACT

In vitro cultures of medicinal of plants – VIII

Method of elicitation is one of the possibilities how to increase production of secondary metabolites in cultures *in vitro*. The effect of abiotic elicitor (3-jodo-4-methylfenyl)amide 5-*terc*-butyl-6-chloropyrazine-2-karboxylic acid in three concentrations on the flavonolignans and flavonoid taxifolin production in *Silybum marianum* callus and suspension culture was tested in this study. Elicitation was run in this time intervals: 6, 12, 24, 48, 72 and 168 hours. Cultivation proceeded on Murashige – Skoog medium with the addition of 10 mg/l of α-naphtylacetic acid. The content of flavonolignans and flavonoid taxifolin was determined by HPLC. The maximum content of flavonolignans (0,05%) in callus culture was found after 168 hours of elicitor treatment in concentration of c_2 = 2,33 x 10^{-4} mol/l. The maximum production of silychristin (0,04%) was found after 6 hours of affecting elicitor c_1 = 2,33 x 10^{-3} mol/l. There wasn't statistical significant increasing of flavonolignans and taxifolin production in suspension culture. The maximum production of silybin A (0,01%) in medium of suspension culture was found after 24 hours of elicitor treatment in concentration of c_1 = 2,33 x 10^{-3} mol/l.